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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/772,676	01/30/2001	William J. Ebel SR.	TI-30224	8020	
7590 03/22/2004 RONALD O. NEERINGS Texas Instruments Incorporated Mail Station 3999 P.O. Box 655474 Dallas, TX 75265			EXAMINER		
			VARTANIAN, HARRY		
			ART UNIT	PAPER NUMBER	
			2634	2634 DATE MAILED: 03/22/2004	
			DATE MAILED: 03/22/2004		

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

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		Applica	tion No.	Applicant(s)				
Office Action Summary		09/772,	676	EBEL, WILLIAM	J.			
		Examin	er	Art Unit				
		•	artanian	2634				
The Period for Re	ne MAILING DATE of this commun aply	nication appears on t	he cover sheet w	rith the correspondence ac	ldress			
THE MAII - Extensions after SIX (i - If the perio - If NO perio - Failure to r Any reply r	TENED STATUTORY PERIOD F LING DATE OF THIS COMMUN of time may be available under the provisions of MONTHS from the mailing date of this come of for reply specified above is less than thirty (3 do for reply is specified above, the maximum so reply within the set or extended period for reply eccived by the Office later than three months ent term adjustment. See 37 CFR 1.704(b).	ICATION. s of 37 CFR 1.136(a). In no a munication. 30) days, a reply within the st latutory period will apply and y will, by statute, cause the a	event, however, may a tatutory minimum of thi will expire SIX (6) MOI application to become A	reply be timely filed inty (30) days will be considered timel NTHS from the mailing date of this c BANDONED (35 U.S.C. § 133).	ly. communication.			
Status					•			
1)⊠ Res	sponsive to communication(s) file	ed on <u>30 January 20</u>	<u>)01</u> .					
2a)∐ Thi	s action is FINAL.	2b)⊠ This action is	nis action is non-final.					
3)☐ Sin-								
clos	closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.							
Disposition (of Claims							
4)⊠ Cla	im(s) 1-10 is/are pending in the	application.						
4a)	4a) Of the above claim(s) is/are withdrawn from consideration.							
5)□ Cla	5) Claim(s) is/are allowed.							
6)⊠ Cla	∑ Claim(s) <u>1-10</u> is/are rejected.							
7) <u></u> Cla	im(s) is/are objected to.							
8)∐ Cla	im(s) are subject to restri	ction and/or election	requirement.					
Application	Papers				:			
9) <u></u> The	specification is objected to by the	ne Examiner.						
10)⊠ The	10)⊠ The drawing(s) filed on <u>30 January 2001</u> is/are: a)⊠ accepted or b)□ objected to by the Examiner.							
Арр	Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).							
Rep	placement drawing sheet(s) including	g the correction is requ	uired if the drawing	g(s) is objected to. See 37 C	FR 1.121(d).			
11) <u></u> The	oath or declaration is objected t	o by the Examiner. I	Note the attache	ed Office Action or form P	ΓΟ-152.			
Priority unde	er 35 U.S.C. § 119							
12) <u> </u>	nowledgment is made of a claim ll b) Some * c) None of:	for foreign priority u	ınder 35 U.S.C.	§ 119(a)-(d) or (f).	:			
1.[Certified copies of the priority	documents have be	en received.					
2.[Certified copies of the priority							
3.	-			n received in this National	Stage			
	application from the Internation	-						
* See	the attached detailed Office action	on for a list of the ce	rtified copies no	t received.				
Attachmant/=\								
Attachment(s)	References Cited (PTO-892)		4) Interview	Summary (PTO-413)				
2) Notice of	Draftsperson's Patent Drawing Review (Paper No	(s)/Mail Date	0.450)			
	n Disclosure Statement(s) (PTO-1449 o (s)/Mail Date	r PTO/SB/08)	5) Notice of 6) Other:	Informal Patent Application (PT	U-152)			
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Detailed Action

Claim Objections

1. Claim 3, 5, 7, and 9 are objected to because of the following informalities: The recites the limitation "the comparison result". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required. A recommended correction is "...a comparison result"

Claim Rejections - 35 USC § 102

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- 2. Claims 1-10 are rejected under 35 U.S.C. 102(a) as being anticipated by Shao(Se PTO-892). Regarding Claim 1, Shoa meets the following limitations:

A turbo decoding system(introduction), comprising:

a decoder module, using an adaptive abort criterion; (introduction)

wherein the adaptive abort criterion is based on the mean and the variance of partially decoded extrinsics. [(See Equations 1 and 2, (Column 2, Lines 1-6) regarding the use of mean and variance; See (Column 2, Lines 33-36) for disclosing the use of Extrinsics]

Regarding Claim 2, Shoa meets the following limitations:

wherein the abort criterion is generated as a ratio of the mean and the variance of the extrinsics. [Equations 1 and 2; (Column 2, Lines 1-6); Specifically term 2 shows that σ^2 is the variance and $y_{k,l}$ is a function of the noise which has a mean and variance, therefor it is a ratio]

Regarding Claim 3, Shoa meets the following limitations:

An iterative decoder system(introduction)

a decoder module, wherein estimates of data symbols are generated through an iterative decoding process; (introduction)

a comparison algorithm for comparing a derived quality attribute of the generated data symbol estimates to a predetermined threshold; **[Eq 6; (Column 3, Lines 8-13)]**

wherein said quality attribute is based on the mean and the variance of the estimates of the data symbols; and [Equations 1 and 2; (Column 2, Lines 1-6); Specifically term 2 shows that σ^2 is the variance and $y_{k,l}$ is a function of the noise which has a mean and variance, therefor it is a ratio]

wherein decoding is aborted based on the comparison result. [Eq 6, (Column 3, Lines 8-13)]

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Regarding Claim 4, Shoa meets the following limitations:

the quality attribute is generated as a ratio of the mean and the variance of the estimates. [Equations 1 and 2; (Column 2, Lines 1-6); Specifically term 2 shows that σ^2 is the variance and $y_{k,l}$ is a function of the noise which has a mean and variance, therefor it is a ratio]

Regarding Claim 5, Shoa meets the following limitations:

A method for determining an abort criterion in turbo decoding, (introduction)

generating extrinsic values; (Section 2)

for each extrinsic value, generating a signal-to-noise ratio; [Equations 1 and 2]

comparing the generated signal-to-noise ratio to a threshold signal-to-noise ratio; (Equation 4)

aborting based on the comparison result; (Section III)

wherein said signal-to-noise ratio is computed from the mean and the variance of the extrinsics. **[Equations 1 and 2]**

Regarding Claim 6, Shoa meets the following limitations:

wherein the signal-to-noise ratio is computed by dividing the mean of the extrinsic values by the variance of the extrinsic values. [Equations 1 and 2; (Column 2, Lines 1-6); Specifically term 2 shows that σ^2 is the variance and $\gamma_{k,l}$ is a function of the noise which has a mean and variance, therefor it is a ratio]

Regarding Claim 7, Shoa meets the following limitations:

A method for determining an abort criterion in iterative decoding, (introduction)

generating estimates of data symbols; (Section 2)

generating a quality attribute based on the mean and variance of the estimates; [Equations 1 and 2; (Column 2, Lines 1-6); Specifically term 2 shows that σ^2 is the variance and $y_{k,l}$ is a function of the noise which has a mean and variance, therefor it is a ratio]

comparing the quality attribute to a predetermined threshold; (Section III)

aborting the turbo decoding based on the comparison result. (Section III)

Regarding Claim 8, Shoa meets the following limitations:

wherein the quality attribute is generated as a ratio of the mean and the variance of the estimates. [Equations 1 and 2; (Column 2, Lines 1-6); Specifically term 2 shows that σ^2 is the variance and $y_{k,l}$ is a function of the noise which has a mean and variance, therefor it is a ratio]

Regarding Claim 9, Shoa meets the following limitations:

A method for determining an abort criterion in iterative decoding, (introduction)

generating estimates of data symbols after an iteration substep; (Section 2)

measuring the mean of the estimates; (Equations 1 and 2)

measuring the variance of the estimates; (Equations 1 and 2)

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generating a quality attribute based on the mean and the variance; (Equation 4)

comparing the quality attribute to a predetermined threshold; (Section III)

and aborting the turbo decoding based on the comparison result. (Section III)

Regarding Claim 10, Shoa meets the following limitations:

wherein the quality attribute is generated as a ratio of the mean and the variance of the estimates. [Equations 1 and 2; (Column 2, Lines 1-6); Specifically term 2 shows that σ^2 is the variance

and $y_{k,l}$ is a function of the noise which has a mean and variance, therefor it is a ratio]

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure. Please look at PTO-892 for references other than Shoa.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Harry Vartanian whose telephone number is 703.305.8698.

The examiner can normally be reached on 9-5:30 Mondays to Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Stephen Chin can be reached on 703.305.4714. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

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217-9197 (toll-free).

Examiner

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Harry Vartanian

SUPERVISORY PATENT EXAMINE!

TECHNOLOGY CENTER 2600

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HV

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